

I claim:

1. A method for distributing link state information by a node to a neighbor in a communication system, the method comprising:
  - 5 sending a first link state advertisement protocol message to the neighbor; and sending a second link state advertisement protocol message to the neighbor prior to receiving an acknowledgment message from the neighbor for the first link state advertisement protocol message.
2. The method of claim 1, further comprising:
  - monitoring for an acknowledgment message from the neighbor for the first link state advertisement protocol message;
  - failing to receive the acknowledgment message from the neighbor for the first link state advertisement protocol message within a predetermined timeout period; and
  - 15 retransmitting the first link state advertisement protocol message.
3. The method of claim 2, further comprising:
  - retransmitting the second link state advertisement protocol message.

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4. A method for distributing link state information by a node to a neighbor in a communication system, the method comprising:

5 maintaining a sliding window for sending up to a predetermined maximum number of link state advertisement protocol messages to the neighbor, wherein the predetermined maximum number is greater than one;

sending the predetermined maximum number of link state advertisement protocol messages to the neighbor; and

10 waiting for an acknowledgment message from the neighbor for at least one of the link state advertisement protocol messages before sending another link state advertisement protocol message.

5. The method of claim 4, further comprising:

15 receiving the acknowledgment message from the neighbor for a first link state advertisement protocol message; and

sending at least one more link state advertisement protocol message.

20 6. The method of claim 4, further comprising:

failing to receive the acknowledgment message from the neighbor within a predetermined timeout period; and

retransmitting at least a first unacknowledged link state advertisement protocol message.

7. A device for distributing link state information in a communication network, the device comprising a link state routing protocol having a sliding window mechanism with a window size greater than one (1) for sending up to a predetermined maximum number of link state advertisement protocol messages without receiving an acknowledgment for any of said link state advertisement protocol messages.

8. The device of claim 7, wherein the link state routing protocol comprises:  
link state distribution logic operably coupled to generate link state advertisement protocol messages; and  
sliding window logic responsive to the link state distribution logic and operably coupled to maintain a sliding window for sending up to a predetermined maximum number of link state advertisement protocol messages to the neighbor without receiving an acknowledgment for any of said link state advertisement protocol messages.

9. The device of claim 8, wherein the sliding window logic is operably coupled to send a first link state advertisement protocol message to the neighbor and to send a second link state advertisement protocol message to the neighbor prior to receiving an acknowledgment message from the neighbor for the first link state advertisement protocol message.

10. The device of claim 9, wherein the sliding window logic is operably coupled to monitor for an acknowledgment message from the neighbor for the first link state advertisement protocol message and to retransmit the first link state advertisement protocol message upon failing to receive the acknowledgment message from the neighbor for the first link state advertisement protocol message within a predetermined timeout period.

11. The device of claim 10, wherein the sliding window logic is operably coupled to retransmit the second link state advertisement protocol message.

12. The device of claim 8, wherein the sliding window logic is operably coupled to send the predetermined maximum number of link state advertisement protocol messages to the neighbor and to wait for an acknowledgment message from the neighbor for at least one of the link state advertisement protocol messages before sending another link state advertisement protocol message.

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13. The device of claim 12, wherein the sliding window logic is operably coupled to receive the acknowledgment message from the neighbor for a first link state advertisement protocol message and to send another link state advertisement protocol message.

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14. The device of claim 12, wherein the sliding window logic is operably coupled to retransmit at least a first unacknowledged link state advertisement protocol message upon failing to receive the acknowledgment message from the neighbor within a predetermined timeout period.

15. A program product comprising a computer readable medium having embodied therein a computer program for distributing link state information in a communication network, the computer program comprising a link state routing protocol having a sliding window mechanism with a window size greater than one (1) for sending up to a predetermined maximum number of link state advertisement protocol messages without receiving an acknowledgment for any of said link state advertisement protocol messages.

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16. The program product of claim 15, wherein the link state routing protocol comprises:

link state distribution logic programmed to generate link state advertisement protocol messages; and  
sliding window logic responsive to the link state distribution logic and programmed to maintain a sliding window for sending up to a predetermined maximum number of link state advertisement protocol messages to the neighbor without receiving an acknowledgment for any of said link state advertisement protocol messages.

17. The program product of claim 16, wherein the sliding window logic is programmed to send a first link state advertisement protocol message to the neighbor and to send a second link state advertisement protocol message to the neighbor prior to receiving an acknowledgment message from the neighbor for the first link state advertisement protocol message.

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18. The program product of claim 17, wherein the sliding window logic is programmed to monitor for an acknowledgment message from the neighbor for the first link state advertisement protocol message and to retransmit the first link state advertisement protocol message upon failing to receive the acknowledgment message from the neighbor for the first link state advertisement protocol message within a predetermined timeout period.

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19. The program product of claim 18, wherein the sliding window logic is programmed to retransmit the second link state advertisement protocol message.

20. The program product of claim 16, wherein the sliding window logic is programmed to send the predetermined maximum number of link state advertisement protocol messages to the neighbor and to wait for an acknowledgment message from the neighbor for at least one of the link state advertisement protocol messages before sending another link state advertisement protocol message.

21. The program product of claim 20, wherein the sliding window logic is programmed to receive the acknowledgment message from the neighbor for a first link state advertisement protocol message and to send another link state advertisement protocol message.

22. The program product of claim 20, wherein the sliding window logic is programmed to retransmit at least a first unacknowledged link state advertisement protocol message upon failing to receive the acknowledgment message from the neighbor within a predetermined timeout period.

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23. A communication system comprising a node in communication with a neighbor, wherein the node includes a link state routing protocol having a sliding window mechanism with a window size greater than one (1) for sending up to a predetermined maximum number of link state advertisement protocol messages to the neighbor without receiving an acknowledgment for any of said link state advertisement protocol messages from the neighbor.

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28. The communication system of claim 27, wherein the node is operably coupled to receive the acknowledgment message from the neighbor for a first link state advertisement protocol message and to send another link state advertisement protocol message.

5 29. The communication system of claim 27, wherein the node is operably coupled to retransmit at least a first unacknowledged link state advertisement protocol message upon failing to receive the acknowledgment message from the neighbor within a predetermined timeout period.

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30. A link state routing protocol comprising a sliding window mechanism.

31. The link state routing protocol of claim 30, comprising open shortest path first (OSPF) routing protocol logic in combination with the sliding window mechanism.